# VESPOID AND SPHECOID HYMENOPTERA COLLECTED IN GUATEMALA BY W. P. COCKERELL. 

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Shortly after Mrs. Cockerell returned from Guatemala in 1912, Prof. T. D. A. Cockerell referred to me, for naming, all the wasps which had been collected; but, due to the fact that very little time could be spent in studying this collection, it was not until recently that all the species have been worked up. The following is a report of every species submitted. As will be seen, a number of them were undescribed, and descriptions of these have been added.
The collection, as here reported upon, has been given to the United States National Museum by Professor Cockerell. polistes instabilis Saussure.

Two workers were collected February, 1912, one from Gualan and one from Quirigua, Guatemala. nectarina lecheguana (Latreille).

Two workers collected at Amatitlan, Guatemala. parachartergus apicalis (Fabticius).

Two females collected at Guatemala City, Guatemala, and one female collected at Gualan, Guatemala, February 10, 1912. PSEUDOChARTERGUS CHARTERGOIDES (Gribodo).

One worker collected at Quirigua, Guatemala, on flowers of Zexmenia virgulata.

This is the first record of this species north of Panama. polybia occidentalis (Oliviet).

Five specimens collected at Gualan, Guatemala, and five at Quirigua, Guatemala, one on flowers of Ipomoea quinquefolia.

Most of these specimens are rather darker than the typical form, the yellow bands on the abdomen being narrower and the yellow of the metanotum being reduced or in two cases wanting. polybia simillima Smith.

Two workers collected at Guatemala City, Guatemala.
Not hitherto recorded from Guatemala.

## stelopolybia meridionalis r. Thering.

One worker collected at Guatemala City, one at Quirigua, two at Gualan, on flowers of Verononia aschenborniana, and one at Amatitlan, Guatemala, February, 1912.

STELOPOLYBIA ANGULATA (Fabricius).
One worker from Antigua, one from Amatitlan, Guatemala.
This species is new to Guatemala.

## Stelopolybia cyannensis (Fabricius).

Three workers from Antigua, Guatemala.

## EUMENES SANTA-ANNA Saussure.

One female from Quirigua, Guatemala, on flowers of Centrosema plumieri, collected February 11, 1912.
pachyodynerus nasidens (Latreilie).
Two females from Quirigua, Guatemala; one male from Gualan, Guatemala, collected February 16, 1912.

## stenodynerus huastecus Saussure.

Two females from Quirigua, Guatemala, one on flowers of Zexmenia virgulata. This differs from description only in having the apical margin of clypeus black.
stenodynerus totonacus Saussure.
One female from Guatemala City, Guatemala.

## alastoroides mexicanus saussure.

One female collected at Quirigua, Guatemala.

## TRICHRYSIS TRIDENS Lepeletier.

One specimen from Quirigua, Guatemala.
dasymutlla, species.
One male from Quirigua, Guatemala.
A small black species which does not seem to be described.

## TIPHIA TRICHIOSOMA Cameron?

One female from Quirigua, Guatemala; one male from Antigua, Guatemala.

This agrees in most points with the original description of trichiosoma Cameron, but there are a few trivial differences, so it is impossible to make the determination certain.
CAMPSOMERIS DIVES (Provancher).
Specimen from Gualan, Guatemala, on flowers of Tithonia diversifolia.

## CAMPSOMERIS TRIFASCIATA (Fabricius).

Two males from Antigua, Guatemala.

## CAMPSOMERIS DORSATA (Fabricius).

Three males from Gualan, Guatemala, one on flowers of Calopogonium coeruleum and one on flowers of Vernonia aschenborniana, the other without flower record; one male from Quirigua, Guatemala. pepsis auranticornis r. Lucas.

A male and female from Quirigua, Guatemala. pedinaspis (PEDINASPIS) Margaretella, new species.

Male.-Length, 11 mm . Slender. Clypeus truncate apically, the sides nearly parallel-sided, surface finely granular with one or two large punctures interspread; malar space obsolete; inner margins of the eyes converging to the clypeus, front seen from the side gently rounding upward to the vertex; posterior margin of the head straight, the cheeks broader than the posterior orbits above, rounding pos-
teriorly; ocelli in a low triangle; the postocellar line distinctly shorter than the ocellocular line; lateral ocelli slightly below the supraorbital line, latrad and caudad of each lateral ocellus is a circular forea; antennae long, filiform, the third joint slightly shorter than the fourth; pronotum very slightly converging anteriorly, angulately emarginate posteriorly; propodeum much elongate, sloping posteriorly, with a median raised line, the surface finely granular; legs very feebly spined; claws with an erect inner tooth; the longer calcarium of the posterior tibia less than half the length of the post-basitarsus; abdomen cylindrical, first segment slightly narrowed anteriorly, subequal in length with the second; third cubital cell slightly longer than the second on the radius, the recurrent veins nearly in the middle of the cells; transverse median of the fore wings its own length beyond the basal vein; transverse median of the hind wings nearly interstitial with the cubitus. Black; a rectangular yellow spot on the lower inner orbits; wings strongly dusky with a faint purplish tinge; venation dark brown basally, pale brown apically; abdomen and propodeum with fine appressed silvery pile.

Guatemala City, Guatemala. Two males collected February, 1912, by W. P. Cockerell.

Type.-Cat. No. 15087 U.S.N.M.
The broad cheeks, the flat thorax, especially the propodeum, give this insect a curious appearance and it is likely that a new genus will have to be made for it.

## ARACHNOPHROCTONUS COCKERELLAE, new species.

This species may be separated from ferrugineus (Say) by the clear wings and different relation of the ocelli.

Male.-Length, 10.5 mm . Clypeus gently convexed, anterior margin truncate, the lateral margin rounded; inner margin of the eyes slightly emarginate; the distance between them at vertex is less than the distance between them at the clypeus; an impressed line from anterior ocellus to between the bases of the antennae (this line is much stronger as it nears the antennae and is broader just in front of the ocellus); the front between the antennae raised into a convexed mound; postocellar line a trifle shorter than the ocellocular line; antennae longer than the head and thorax, filiform, third and fourth joints subequal in length; posterior margin of the pronotum broadly arcuately emarginate; the dorsal aspect of the propodeum without hair or pubescence; posterior aspect of the propodeum with irregularly scattered black hair; transverse median of fore wings interstitial with the basal vein; second cubital cell subequal in length with the third on the cubitus; third cubital cell strongly narrowed above so its length on the radius is less than the distance between the second recurrent vein and the second transverse cubitus; transverse median
of hind wings interstitial; legs feebly spined; all claws cleft. Rufoferruginous; flagellum, sutures of the mesothorax, mesosternum, propodeum dorsally, apical margins of the first and second tergites and the base of the first tergite black; wings hyaline, extreme tip dusky; venation strong, black.

Gualan, Guatemala. One male collected February 12, 1912, W. P. Cockerell.

Type.-Cat. No. 16028, U.S.N.M. EPISYRON PORUS (Fox).

One specimen from Quirigua, Guatemala. stizus godmani cameron.

Male and female from Quirigua, Guatemala; two males and one female from Gualan, Guatemala, on flowers of Iresine paniculata. microbembex tarsalis, new species.

This species falls in Handlirsch's table nearest to monodonta, but is not monodonta or any other subspecies which has been described under this head.

Female.-Length, 12 mm . Labrum sharply tapering to a narrow, truncate apex; clypeus strongly convex medianly; the inner margins of the eyes slightly converging towards the clypeus; head finely granular with a few punctures interspread, vertex depressed laterally; third antennal joint distinctly longer than the fourth; mesoscutum shining, with distinct, fine, separated punctures; scutum similarly punctured; propodeum finely granular; tarsal comb well defined; second and third tarsal joints, reduced beneath into strong tubercule; abdomen shining, under high magnification, punctatoreticulate. Black; anterior margin of the clypeus, sides of the labrum posterior margin of the pronotum, tubercules, tegulae, spot above, spot on the sides of the scutellum, metanotum, transverse spot on the dorsal apex of the propodeum; apical bands on the first, second, third, fourth, and fifth tergites, yellow or yellowish white; legs black; apices of the femora, bases of the tibiae yellow; tarsi ferruginous; wings hyaline; venation pale brown, costa and stigma dark brown.

Male.-Length, 12 mm . This agrees well with the above description of the female in its general structure and in color markings except that the colors are greenish yellow; the mesoscutum has two median yellow dots; the bands on the tergite are broader, that on the first indentate medianly, that on the second, third, and fourth slightly produced medianly; the tooth on the second sternite low, with a short hook posteriorly; apical sternite sharply triangular in outline.

Quirigua, Guatemala, and Gualan, Guatemala. Described from one female, type, collected at flowers of Ipomoea sidaefolia, February 20, 1912; and one male, allotype, collected at Gualan, February 16, 1912, by W. P. Cockerell.

Type.-Cat. No. 16027, U.S.N.M.

## STICTIA GUATEMALENSIS, new species.

This species runs in Handlirsch's table to grandis Handlirsch, from which it may be readily separated, as the following description will show:

Female.-Length, 13 mm . Labrum gradually narrowing to the truncate apex; clypeus with a strong median carina, the anterior margin truncate; third antennal joint a little shorter than the fourth and fifth; anterior ocellus in a pit; thorax closely, finely granular; anterior tarsi flattened, the basal joint longer than the three following; femora simple; legs feebly spined; empodia large, well defined; abdomen shining, under high magnification finely reticulate; apical tergite studded basally with a number of strong spines. Black; clypeus, labrum, supraclypeal area, antennal fover, inner margins of the eyes almost to the vertex, a $U$-shaped spot inclosing the ocelli, a line on the posterior orbits broader beneath, posterior margin of the pronotum, tubercule, ventral margin of the pronotum, a broad band from beneath tegulæ to the anterior margin of the mesepisternum, a band from the median coxae to the above-mentioned band, the mesepimeron below, spot on the sides of the propodeum, two marks on the scutum, and a transverse mark on the scutum in front of the scutellum, two spots on the sides of the scutellum, metanotum, posterior margin of the propodeum, an elongate, longitudinal, lateral spot on the first tergite, two median subcircular spots on the same tergite, bands on the second, third, fourth, and fifth tergites which are subinterrupted medianly and with sublateral prong which projects anteriorly to the basal margin of the tergite, sides of the last tergite, and all the sternites, yellow or yellowish white; legs yellow, the femora above with a black line, and a black spot on the posterior margin of thefour anterior tibix, the four posterior femora except where mentioned are rufoferruginous; scape and first flagellar joint yellow beneath, the second and following joints of the flagellum ferruginous beneath; wings hyaline; venation brown.

Antigua, Guatemala, and Guatemala City, Guatemala. Described from two females, the type from Antigua, both collected by W. P. Cockerell.

Type.-Cat. No. 16026, U.S.N.M.

## silaon iresinides, new species.

Belongs to the group chilensis and is related to mexicanus Rohwer, but may be separated from mexicanus by the tridentate clypeal lobe.

Male.-Length, 6 mm . Clypeus strongly carinate, median anterior lobe strongly tridentate; head coarsely, closely granular; postocellar line one-third longer than the ocellocular line; flagellum thickening apically, the first joint slightly longer than the second, the apical joint acuminate and slightly longer than the dorsal length of the two preceding joints; mesoscutum shining, studded with close, well-defined, medium sized punctures; mesepisternum coarsely granu-
lar; scutellum granular; dorsal aspect of the propodeum with irregular radiating striae; sides of the propodeum with fine striae; posterior aspect with irregular, transverse striae; tergites shining, with sparse, well-defined punctures; the apical margin depressed about one-third, the depression broader medianly; apical tergite more coarsely punctured than the preceding ones; apical sternite broadly rounded to a minutely emarginate apex. Black; pronotum, tubercule, tegulac, metanotum, apices of the four anterior femora (broader beneath), the four anterior tibiae, the apices of the tarsi beneath, extreme apex of the posterior femora, and the narrow line on the posterior tibiae and most of the posterior tarsi yellowish; flagellum at about the middle brownish; face, thorax, and depressed area on the tergites with appressed goldon pile; wings dusky hyaline, the bases slightly darker; venation pale brown, costa and stigma dark brown.

Gualan, Guatemala. Described from one male collected on flowers of lresine paniculata, by W. P. Cockerell.

Type.-Cat. No. 16025, U.S.N.M.
TACHYSPHEX COCKERELLAE, new species.
This species is quite distinct by the dentation on the clypeus and the puncturation.

Male.-Length, 8 mm . Anterior margin of the clypeus produced in the middle, production sharply angled and with a median tooth, surface of the clypeus finely punctured laterally, with large separate punctures medianly; above each antenna is a faint carina which extends dorsally for a short distance and then curves laterally until it is tangent with a line drawn from the antennal foveae and touching inner orbits of the eye at the vertex; head with close distinct punctures; frontal median line present; intraocellar area divided by a broad furrow; distance between the eyes at the vertex slightly shorter than the length of the third and fourth antennal joints; a Y -shaped depression behind the lateral ocelli; vertex more sparsely punctured than the front; antennae rather short, third joint distinctly shorter than the fourth; mesonotum sculptured like the front; scutellum more sparsely punctured than the mesonotum; dorsal aspect of the propodeum rather coarsely punctato-reticulate, posterior aspect of the propodeum perpendicular but not sharply separated from the dorsal aspect, finely, transversely striato-punctate; longer calcarium of the posterior tibiae about three-fourths the length of the hind basitarsus; abdomen shiny; the apical margin of the first three tergites depressed more than one-third the length of the segment; apical ventral segment deeply, arcuately emarginate, the lobes narrow, pointed at the apex. Black; abdomen rufous; the apical three joints of the hind tarsi piceous; head and thorax densely clothed with gray pubescence; wings dusky hyaline; costa and stigma dark brown; venation pale brown.

Amatitlan, Guatemala. Described from two males collected by W. P. Cockerell, February, 1912. Type collected February 5, paratype, without definite date.

Type.-Cat. No. 15086, U.S.N.M. NOTOGONIDEA STERNALIS, new species.

Of the described species this species comes nearest to beata Cameron, but may be separated from that species by having the scape distinctly longer than the second and third joints.

Male.-Length, 7 mm . Clypeus carinate medianly, the median portion produced into a broad, low lobe; frontal ridges strong; third antennal joint slightly shorter than the fourth; eyes separated at the vertex by a distance slightly longer than the length of the second and third antennal joints; depression behind the ocelli not sharply defined; head very finely granular, opaque; thorax finely granular, opaque; propodeum slightly more coarsely granular; the dorsal and postcrior surfaces separated by a sharp carina which is emarginate medianly; the posterior face without striac; legs feebly spined, the longer calcarium of the posterior tibiae subequal in length with the basitarsis; second, third, and fourth sternites with coarse, reddish hair near the middle; this hair is denser on the third sternite; apical sternite broad, nearly truncate, lateral angles rounded and in the middle very slightly emarginate; third cubital cell slightly longer than the second on the radius. Black; covered with a fine gray pile which on abdominal segments takes the form of apical bands, and is denser on the posterior aspect of the propodeum, and the face below the crest; wings hyaline, with a strong purplish tinge, apices dusky; venation pale brown except the costa and stigma which are black.

Gualan, Guatemala. Described from one male collected February 15, 1912, by W. P. Cockerell.

Type.-Cat. No. 16023, U.S.N.M.
nysson (BRACHYSTEGUS) GUATEMALENSIS, new species.
Differs from Nysson zapotecus Cresson, as described by him, in the color of the legs.

Ferale.-Length, 7 mm . Anterior margin of the clypeus gently rounded, surface obscured with dense pubescence; frontal carina short, extending about half the distance from the bases of the antennae to the anterior ocellus; head finely granular with large, distinct, separate punctures interspread; anterior ocellus larger than lateral ocelli; inside of each lateral ocellus is a raised tubercule; postocellar line slightly longer than the ocellocular line; antennæ thickened apically, the third joint slightly longer than the fourth; lateral anterior margin of the pronotum dentate; mesonotum bipunctate, surface with very small, distinct punctures, the large punctures are separate and distinct; the large punctures on the scutellum are confluent; mesepisternum
coarsely reticulate; dorsal aspect of the propodeum with oblique longitudinal carinae, posterior face with the usual V-shaped fovea; abdomen opaque with a number of large separate punctures; legs of the normal type; pygidium about one and one-third times as long as the basal width, gradually narrowed to a subtruncate apex; third cubital cell on the radius but little shorter than the distance between the second transverse cubitus and the first recurrent vein. Black; margin of the pronotum, tubercule, a line on the anterior portion of the scutellum, narrowed apically bands on the first to the fourth segments, interrupted on the second and fifth, yellowish white; legs black, the four anterior femora beneath and the posterior femora entircly rufous; head and thorax with dense, appressed, silvery pile; wings dusky hyaline, iridescent; renation dark brown.
Amatitlan, Guatemala. Described from one female collected by W. P. Cockerell, February, 1912.

Type.-Cat. No. 15083, U.S.N.M. notoglossa pyrura, new species.

Judging from the descriptions this species is closely allied to argenteopilosus Cameron but may be easily separated from it by the squamae which have the inner posterior margin lobate with the lobe extending posteriorly beyond the curved spine.

Female.-Length, 4 mm . Anterior margin of the clypeus truncate in the middle, biemarginate laterally so there is a lateral, triangularlyshaped tooth; clypeus sparsely punctured; the interantennal line slightly shorter than the antennocular line; head subshiny with well scparated, distinct, medium sized punctures; ocelli in a low triangle; the ocellocular line distinctly shorter than the interocellar line; inner orbits slightly depressed and more sparsely punctured than the rest of the head; antennae short, the third antennal joint slightly longer than the fourth; anterior margin of the pronotum sharply carinate, interrupted in the middle, laterally subdentate; mesonotum sculptured like the head; mesepisternum shiny, punctate above, striato-punctate below; squamae and spines about as in argenteopilosus Cameron ${ }^{1}$ but differs as mentioned above; dorsal aspect of the propodeum with five oblique carinae; posterior aspect of the propodeum defined laterally by sharp carinae, transversely striato-punctate; the median fovea $U$-shaped with the carina from its apex to the ventral aspect of the posterior face; anterior femora simple; bases of four posterior tibiae rather coarsely spined, the longer calcarium of the posterior tibiae but little shorter than the post-basitarsis; abdomen shiny with distinct well separated punctures, basal segment depressed in the middle; pygidium broad, the surface rugose, the apex narrowly rounded. Black; mandibles, apex of scape, pronotum, tubercules, two spots on

[^0]the scutellum, narrow lateral spots on the first to fourth tergites, the apices of the four anterior femora beneath, the four anterior tibiae except a line above, basal spot on the posterior tibiae externally, yellow; tegula piceous; sqamae, spines, and calcaria pallid; flagellum beneath, the three apical joints above and the anterior tarsi fuscous; wings hyaline, faintly dusky, strongly iridescent; venation dark brown; apical abdominal segment bright red.

Male.-Length, 3.5 mm . A single specimen which for the time being may be considered as the male of the species, differs from the female as described above in the following characters: The fovea of the posterior face of the propodeum $V$-shaped, the apex of the $V$ being almost at the ventral margin of the posterior aspect of the propodeum; pronotum, tubercules and scutellum black; the four anterior tibiae and tarsi, the base of the posterior tibiae and the posterior tarsi yellow (the tarsi are rather paler). The apical dorsal segment of the abdomen angularly notched, the lobes triangular in outline.

The spots on the second, third, and fourth tergites may be wanting or incomplete.

Quirigua, Guatemala. Described from three females and one male collected by W. P. Cockerell, February, 1912, bearing the following note, "nesting in sand."

Type.-Cat. No. 15085, U.S.N.M.

## RHOPALUM OPACUM, new species.

Differs from Rhopalum spinigerus Cameron by the absence of the spines on the anterior femora and other characters, nor will it agree with the description of Rhopalum angulicolle Cameron, being easily distinguished from this species by the pale four anterior femora.

Male.-Length, 4 mm . Anterior margin of the clypeus regularly rounded, without teeth; distance between the eyes at the clypeus subequal with the length of the second and third antennal joints; head finely granular; an impressed line from the anterior ocellus to between the bases of the antennae; ocelli in an equilateral triangle; postocellar line distinctly shorter than the ocellocular line; third antennal joint much shorter than the fourth; pronotum long, rounded anteriorly, neither dentate nor carinate; thorax opaque, finely granular; the suture between the metanotum and the propodeum strongly foveolate; propodeum finely granular; the four anterior legs normal, the posterior tibiae strongly curved beyond the basal fourth, posterior basitarsis curved basally, subequal in length with the two following joints; petiole not strongly nodose, not as long as the two following segments combined; first recurrent vein slightly beyond the middle of the first cubital cell; first transverse cubitus straight, not oblique. Black; mandibles, palpi, scape, flagellum beneath, tubercules, the apical lateral margin of the third tergite, the anterior legs, inter-
mediate trochanters, femora and tibiae beneath and spot on the posterior trochanters yellowish; intermediate tarsi and basal fourth of posterior tibiae pallid; wings hyaline, very slightly dusky, strongly iridescent; venation dark brown.

Quirigua, Guatemala. Described from one male collected by W. P. Cockerell, February, 1912.

Type.-Cat. No. 15084, U.S.N.M. TRYPOXYLON AZTECUM Saussure.

One female from Quirigua, Guatemala.
TRYPOXYLON MEXICANUM Saussure.
One female from Quirigua, Guatemala, February, 1912.
Prof. T. D. A. Cockerell has described this specimen as follows:
"Length about 20 mm. ; anterior wing about 12 ; shining black, the front dull and rugose; clypeus longitudinally carinate, its lower lateral corners angled; sides of face, and inferior orbits behind, with shining silvery hair; mandibles ferruginous; antennae entirely black; emargination of eyes very deep; mesothorax with very fine punctures, scutellum almost impunctate on disk; hair of front, vertex, occiput and thorax short, scanty, and black; metathorax smooth and shining, with very feeble minute punctures, and a slight median groove, but the posterior part finely obliquely striate; tegulae shining black; wings dark fuliginous, with a purple iridescence; basal nervure falling short of transverse medial; stigma very small; marginal cell long, pointed at apex, angled beneath near middle; only two submarginal cells, the first extremely long, receiving first recurrent nervure some distance from end; second about half as large as first, about half as wide above as below, receiving second recurrent nervure about onefourth of its length from base; outer angle formed by second recurrent on joining second submarginal cell an acute angle; outer nervures of third discoidal and second submarginal cell evanescent; legs black, with the apical half of hind basitarsi, and the three following joints silver-white, with a creamy tint in some lights; last joint of hind tarsi with the base pale reddish, the apical part dark; hind spur bent; abdomen petiolate, elongate, smooth and shining, about 3 mm . wide in middle; a depression between first and second segments dorsally; no pygidial area; apical segment carinate; last ventral segment with fine light brownish tomentum and long erect hairs."
trachypus mexicanus (Cameron).
Specimen from Quirigua, Guatemala, collected February 15, 1912, on Pontederia cordata.

## CERCERIS IRESINIDES, new species.

This species does not agree with any of the species described by Cameron, and as it is a male its affinities can not be easily ascertained.

Male.-Length, 6 mm . Clypeus flat, the anterior margin tricrenulate, the lateral margin with strong tuft of hair; supraclypeal
tubercule poorly defined; postocellar line shorter by the width of the lateral ocellus than the ocellocular line; pedicellum globose; third antennal joint about one-fifth longer than the fourth; head closely, sometimes confluently punctured; mesonotum with distinct, welldefined, large punctures; mesepisternum with the punctures less distinct and closer than those on the scutum; propodeal inclosure smooth, impunctate, divided by a median furrow; the rest of the propodeum punctured similar to the scutum but more sparsely so; first tergite sparsely punctured with large, deep, well-defined punctures; pygidium slightly narrowing apically, elongate oval in outline, apex subtruncate. Black; clypeus, sides of face up to the top of the antennal foveae, seape beneath, two spots on the pronotum, line on the scutellum, line on the metanotum, the four anterior tibiae and tarsi, the basal third of the posterior tibiae, two-thirds of the posterior basitarsis, bands on the first, second, fourth, fifth, and sixth tergites, and lateral spots on the third tergite, yellow; the bands on the first and second tergites are much wider than those on the following tergites; head and thorax with gray hair; wings subhyaline, the area beyond the basal vein and above the cubitus dusky; venation including stigma dark brown; flagellum orange colored beneath.

Gualan, and Guatemala City, Guatemala. Described from two females from the first mentioned locality, one of which was collected at the flowers of Iresine paniculata and is chosen as the type; the other was collected February 18, 1912; and one male from the latter mentioned locality, all collected by W. P. Cockerell.

Type.-Cat. No. 16024, U.S.N.M.


[^0]:    ${ }^{1}$ Figured on pl. 9, fig. 23a, Biol. Centr.-Amer., vol. 2, Hym.

